

IRISH INLAND FISHERIES COMMISSION.

R E P O R T

OF

THE COMMISSIONERS.

Presented to both Houses of Parliament by Command of Her Majesty.



DUBLIN :

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WARRANT APPOINTING THE COMMISSION.

CHIEF SECRETARY'S OFFICE,
DUBLIN CASTLE.

BY THE LORD LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF
IRELAND :

CADOGAN.

To

The Right Hon. SAMUEL WALKER, Lord Justice of Appeal in Ireland (Chairman);
Professor DANIEL JOHN CUNNINGHAM, M.D., Trinity College, Dublin;
Sir THOMAS EDMONDE, BART., M.P.;
Sir R. U. PENROSE FITZGERALD, BART., M.P.;
The Rev. WM. SPOTSWOOD GREEN, M.A., one of Her Majesty's Inspectors of
Fisheries in Ireland;
Professor WILLIAM CARMICHAEL M'INTOSH, M.A., St. Andrews University;
The Right Hon. O'CONOR DON.

WHEREAS We have deemed it expedient that a Commission should forthwith issue to inquire into the present condition of Inland Fisheries, that is to say Fisheries in Lakes, Rivers, and Estuaries in Ireland, and the Laws relating thereto; and to report thereon and make such recommendations to Us in reference thereto as they shall deem fit:

Now We, GEORGE HENRY, EARL CADOGAN, Lord Lieutenant-General and General Governor of Ireland, do hereby nominate and appoint you, the said

Right Hon. SAMUEL WALKER,
Professor DANIEL JOHN CUNNINGHAM, M.D.,
Sir THOMAS EDMONDE, BART., M.P.,
Sir R. U. PENROSE FITZGERALD, BART., M.P.,
Rev. WILLIAM SPOTSWOOD GREEN, M.A.,
Professor WILLIAM CARMICHAEL M'INTOSH, M.A.; and
Right Hon. O'CONOR DON,

to be our Commissioners for the purpose aforesaid.

And for the better effecting the purpose of this Our Commission, We do by these presents authorize and empower you, or any three or more of you to be named by you, to call before you, or any three or more of you named as aforesaid, such persons as you may think fit to examine, and by whom you may be the better informed of the matters hereby submitted for your consideration and everything connected therewith; and, generally, to inquire of and concerning the premises by all other lawful ways and means whatsoever.

And also to call for and examine such books, papers, documents, writings, or records, as you, or any three or more of you as aforesaid, shall think useful for the purpose of the inquiry.

And We also by these presents authorize and empower you, or any three or more of you as aforesaid, to visit and personally inspect such places in Ireland as you, or any three or more of you as aforesaid, may deem expedient for the purpose aforesaid; and Our pleasure is that you, or any three or more of you as aforesaid, do from time to time and with all convenient speed report to Us what you shall find concerning the premises.

And We further by these presents ordain that this Our Commission shall continue in full force and virtue, and that you Our Commissioners do from time to time proceed in the execution thereof although the same be not continued from time to time by adjournment.

Given at Her Majesty's Castle of Dublin, this 11th day of August, 1899.

By His Excellency's Command.

D. HARREL.

COMMISSION TO INQUIRE INTO THE PRESENT
CONDITION OF INLAND FISHERIES IN
IRELAND AND THE LAWS RELATING
THERETO.

IRISH INLAND FISHERIES COMMISSION.

REPORT.

TO HIS EXCELLENCY GEORGE HENRY, EARL CADOGAN, K.G.,

&c., &c., &c.,

LORD LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF IRELAND.

MAY IT PLEASE YOUR EXCELLENCY,—

By Your Excellency's Warrant of the 11th August, 1899, you were pleased to appoint us Commissioners to inquire into the condition of Inland Fisheries in Ireland and the laws relating thereto, and to report thereon and make such recommendations to your Excellency in reference thereto as we should think fit.

At our first meeting, we appointed the Hon. G. W. Hely-Hutchinson Secretary to the Commission.

Our first public sitting was held in Dublin on the 16th November, and subsequently the Commissioners held thirty public sittings, of which nineteen were held in Dublin and eleven at the following places:—Limerick, Killarney, Cork, Waterford, Ballina, Sligo, Derry, Belfast, Galway, and Wexford.

The Commissioners received evidence as to all the principal rivers, estuaries, and fishing waters in Ireland, and they also made personal inspections of the Shannon from Killaloe to Scattery Island, the Laune and Killarney Lakes, the Lee, the Blackwater down to Youghal, the Boyne, the Moy, the Sligo river, the Ballysadare, the Bush, the Bann, the Foyle, the Galway river, the Slaney, and also the various weirs used in connection with those fisheries, and the hatcheries established thereon. One hundred and ninety-seven witnesses attended our sittings, and were examined.

During the course of our inquiry, we invited, by public notices, the attendance of witnesses representing every class and interest, and held inquiries locally in every important district whenever requested.

We consider that the principle of preserving the supply of Salmon and Trout for the use of the public, and maintaining the benefits which, directly and indirectly, accrue to the country from the maintenance of a sufficient number of fish in the rivers, estuaries, and waters of Ireland, underlies the granting of the present Commission: and we have carefully kept this fact in view throughout our entire inquiry.

The nature of our inquiry has necessarily led to the attendance before us of the representatives of many diverse interests, and in dealing with the problem of what is best to be done in order to improve the productiveness of the fishing waters, and in deciding on remedies where decline has taken place, we have, as might be expected, found that some interests involved, and put forward, may appear to be affected by our recommendations. We have, however, continuously borne in mind the valuable vested interests of the owners of several fisheries in the tidal waters, who exercise their rights for commercial purposes, and are the chief suppliers of Salmon and Trout to the public; and also the acquired interests of net owners in the fresh water portions of rivers. We have also endeavoured to keep in view the interests of those who, by virtue of the public right existing in Ireland, fish on the sea coast, in the open sea, and in estuaries, and also the interests of anglers who rent fisheries in the upper waters, and fish for purposes of sport. We fully recognise that the presence of anglers is a source of much profit and employment in the districts frequented by them.

The value of those several interests to the country may best appear from the figures to which we have had access. It is estimated that the Irish Salmon Fisheries yield a gross return of upwards of £300,000 per annum, of which £200,000 may be taken as

Value of
Salmon
Fisherries

the earnings of fishermen who prosecute their industry under the public right, together with what is spent on wages and the employment of persons connected with the fisheries; and, with regard to angling, a witness of experience estimated that, taking into account rent and the hire of boats and attendants, every salmon caught by him cost, in the present condition of the fisheries, £7 10s. The same witness stated that ten years ago, each salmon caught cost him in expenses £3.

It is evident that the producing power of a river must be diminished, and probably in an annually increasing ratio, whenever there is such interference with the free runs of Salmon and Trout in the rivers and estuaries as curtails the proper supply of fish to the upper waters for breeding purposes. This may arise from want of adequate protection, or from the existence of obstructions in the channel, or from excessive drafts upon the stock of fish caused by the time, place and manner of capture, or from a combination of such causes. Whenever such an effect is produced, the public interest must ultimately suffer.

Depletion of Fisheries.

The first question to which our attention has been directed was whether that decrease in the supply of Salmon and Trout which was alleged to exist, and furnished ground for the present inquiry, exists in fact.

We think the evidence laid before us leads to the conclusion that there has been, for some years, a steady decrease in the stock of Salmon and Trout, including brown trout, in the Irish fishing waters. The returns of the capture of salmon by netting, which we have obtained from the various rivers, (although we have only been able in a very imperfect and unsatisfactory manner to procure statistics of this kind), show, no doubt, fluctuations, and the occurrence of an occasional good year; but good years, when they occur, seem to have fallen below their former averages, and bad years in the same manner show a similar decline. This indicates a steady downward tendency, much marked during the last three years, and appears to us to prove that there has been a continuous decrease in the number of fish entering the rivers. There seems also from the evidence to be little doubt that there has been a gradual and steady diminution in the number of salmon reaching the upper waters, and upon this the productiveness of a river ultimately depends. This is specially apparent in the decline of angling; and we have had evidence that it has led, in many instances, to apathy and neglect on the part of the upper proprietors, who have in some instances devoted their attention more to the propagation of trout, including rainbow trout, an importation the benefit of which has yet to be established.

There is no doubt that the productiveness of a river can be largely influenced by the action or inaction of one of those classes who represent the diverse interests and rights which exist in Ireland—e.g., the public, the owners of several fisheries, and the riparian owners in upper waters, who themselves form a numerous class, and have often conflicting interests, *sic et sic*. The highest object to attain would obviously be such a combination of all those representing diverse interests, as would give rise to a fair and harmonious treatment of all parts of a river, and, in result, lead to the ultimate benefit of all. There is at least one river in Ireland, to which we shall refer later on, in which combination practised for a time led to the most beneficial results. We recognize that it is vain to expect, under present circumstances, in any considerable degree, such voluntary combination in Ireland; but we believe that the recommendations made in this Report, if carried into effect, would go some way towards attaining the same object.

We do not think that artificial propagation can be either wisely or safely relied upon as, in itself, furnishing a complete remedy for depletion. The first consideration should be to maintain the natural productiveness of a river. The question of hatcheries, however, is so important that we purpose to make it the subject of special consideration in a later part of this Report.

Several witnesses attributed the cause of the diminution of salmon to some unknown condition in the sea, and, in support of their statement, pointed out that in certain seasons the salmon are in poor condition, and that these seasons are generally marked by the small number of salmon entering the river. If this be true, it might indicate to us, as suggested, a failure in the food-supply of the salmon in the sea, and a consequent failure on their part to lay in that reserve store of material necessary for the formation of the genitalia and the development of the energy required for their passage up the river. It should be noted, however, that this evidence is based upon statements which cannot be considered in every respect satisfactory. No figures were given in support of these opinions, and none of those who gave expression to this view had

measured the fish, with the object of comparing the length with the weight. It is Depletion right, also, to state that what evidence there is bearing on this question is opposed of Fisheries to the view put forward by these witnesses, and with our very imperfect knowledge of the life-history of salmon in the sea, we do not consider that any conclusion should be come to in favour of the theory. The question, however, is an important one, and we hope that it may be made the subject of future investigation.

Another theory suggested was that there are, in the supply of salmon, cycles of good years and bad years, even apart from the influences of rainfall and other natural causes; and that we are now passing through a cycle of bad years, which in course of time will give place to a period of better supply. There is no doubt that weather—the presence or absence of rainfall—are large factors in the supply of Salmon and Sea-Trout, and influence greatly the extent of their capture, especially in the upper waters; but, apart from the direct influence of those natural causes, we do not consider that there is sufficient ground for concluding that there will be a recurrence of either good or bad years in any particular successive season, and the evidence, so far as we have been able to procure it, of the takes in the principal rivers during many years, and their varying averages during these years, lead us to the conclusion that this cycle-theory fails at present to furnish any rule or law by which fishery legislation can be guided.

We now propose to deal with the various subjects which occur to us or to which arrangement of Report. our attention has been directed in evidence, making such recommendations under each head as appear to us to be called for.

We shall deal with them in the following order:—

1. The capture of Salmon and Trout, by engines and nets in the open sea.
2. Their capture by engines and nets, in estuaries and tidal waters other than the open sea.
3. Their capture by nets, in the fresh water portions of rivers.
4. The maintenance of efficient free passes for fish ascending to the upper waters, and removal of obstructions in the channels.
5. The destruction of fish in the upper and inland waters by reason of the want of efficient protection during the weekly and annual close seasons, especially while spawning or on the spawning beds, or in the case of Salmon and Sea-Trout when returning to the sea after spawning.
6. Their destruction by—
 - (a.) Poisoning, dynamite, &c.;
 - (b.) Flax water;
 - (c.) Pollutions from factories;
 - (d.) By turbines and other machinery connected with mills;
 - (e.) The capture of immature fish.
7. Diminution caused by the reduction of the area of spawning beds.
8. Restrictions on the sale, exportation and possession, of poached, unseasonable, or unclean fish.
9. The establishment and maintenance of hatcheries.
10. The procurement and creation of funds, and, in connection with this, the subject of licence duties.
11. The necessity for continuous scientific investigation.
12. Some general suggestions as to amendments of the Fishery Laws.

1.—It is obvious that the capture of Salmon and Trout, in the open sea does not interfere with the free passage of such fish to the upper waters in the same degree as their capture in the narrow reaches of estuaries, or by netting in the fresh-water portions of rivers. In fact, the policy has been successfully pursued in some cases, notably in Norway, and to some extent in Scotland, of encouraging fishing in the open sea at the expense of netting in estuaries and the fresh water; but we fear that the conditions applicable to Irish rivers do not make it likely that such action can be taken in Ireland, however desirable it might be. Fishing for Salmon and Trout on the sea coast or in the open sea is an industry followed as a rule by fishermen of the poorer class, and if the weekly and annual close seasons were observed, or their observance enforced by the employment of more efficient protection,—a subject we shall recur to hereafter—we

do not think that the fishing in the open sea calls for any further restrictions on its use. There was, up to the present, a power in the Inspectors of Fisheries to impose a check upon excessive length in nets used, and we assume that the Fishery Authority will continue to put those powers in force when necessary.

**2.
Estuary and
Tidal
Fisheries**

The right of fishing for Salmon and Trout in estuaries and tidal waters, other than the open sea, is in Ireland differently circumscribed in different places. In some cases it remains as it originally was, entirely in the public, by reason of the liberty which the Queen's subjects have. In other cases the right has passed altogether into private hands by means of a lawful grant, or prescription pre-supposing such a grant, and in other cases it is partly vested in such a private proprietor, and partly in the public. The interests of those private proprietors are most valuable vested rights, and it is from capture in tidal waters and estuaries that the supply of salmon for the public is mainly derived; but the interests of the public itself have long since established the necessity for restrictions. These restrictions are, speaking generally, the annual close season, the weekly close time, and various regulations as to the mode of netting and capture.

**Annual
Close Season.**

The Fishery Authority, which henceforth will represent the Inspectors of Fisheries, has at present, full power, within certain limits, to alter the annual close season in any river. At present the open season in two rivers begins on the 1st January, and in other rivers considerably later—a circumstance which has led to much poaching by affording a cloak for disposing of illegally-caught fish. If it should so happen that the additional precautions against the sale of illegally-caught fish, which we recommend to be adopted, prove ineffectual, it may become necessary that the open season, in these and other rivers, which now begins much later, be altered so as to make all begin on a uniform date. At present we are unwilling to suggest any restriction which would appear to interfere with food-supply.

**Weekly
Close Time.**

With respect to the weekly close time, it extends at present from 6 a.m. on Saturday morning to 6 a.m. on Monday morning. We consider that the existence of the same weekly close time throughout an entire estuary—a subject to which we shall recur in our observations on fishing in the fresh-water portions of rivers—is attended with disadvantages in the case of estuaries of considerable length. The rapidity of passage of fish in an estuary depends on many conditions—the weather, the tides, the temperature of the water, and the character of the fish running at the time; and the effect of the present close time is, that, in many cases, the net-proprietor in the upper part of the estuary is able to capture nearly all the fish which have passed the lower parts during the weekly close time, and are in their actual resting-places in course of ascent. We think that the Fishery Authority should have power to alter, from time to time, the weekly close time in any part of a fishery district or estuary, or, if necessary, to extend it by an additional period not exceeding twenty-four hours.

**Passage of
Fish.**

Under the existing law, it is not lawful to shoot, draw, or stretch nets entirely across an estuary or river, so as to obstruct the passage of fish, or deprive them of a channel which can be really used for the purpose of passage while the nets are being drawn. We consider that every net-owner should be bound, where practicable, to define, with the approbation of the Fishery Authority, the space which is to be left for that purpose, having regard to the depth and character of the water; such space to be defined or marked off as the Fishery Authority may require; and with that view, the Fishery Authority should have power to make, and should make, bye-laws regulating the length of the nets which may be lawfully used in estuaries, or any part thereof, and also the manner of their use, so as to prevent overlapping.

Drift Nets.

The abolition, under the Act of 1863, of a large number of fixed engines, led to the establishment in estuaries of drift nets, which are now extensively used in some estuaries; but we believe that the existing powers of the Fishery Authority over the length of those nets, and the places at which they may be used, are sufficient to prevent any undue obstruction by them to the passage of fish.

**3.
Fresh-water
Fisheries.**

The use of nets for the capture of Salmon or Trout in the fresh-water portions of rivers requires, we think, to be more carefully guarded than the similar use in tidal waters. Nets are used, in some places, in narrow rivers, and in places where the exercise of control over them is difficult. The value of these fresh-water fisheries is principally due to the fishery legislation of 1863, and is not based on any long-continued user, and, in some places, it has considerably counteracted the benefits accruing from the abolition of fixed engines in tidal waters. We consider that it should be

made unlawful to shoot any seine or draft net, for the capture of Salmon or Trout, in the fresh-water portions of any river, across more than two-thirds of the width of the river, or within 200 yards of any other seine or draft net that is already shot, and being drawn, and which is not fully landed, and that all overlapping of nets should be made illegal. Also, that unless and so far as the Fishery Authority shall by bye-law otherwise order, the weekly close time for nets in the fresh-water portions of rivers shall be a continuous period of sixty hours. We further recommend that the previous written licence of the Fishery Authority should be required, before a riparian owner hereafter uses for the first time, or lets the privilege of using, any seine, draft, or snap net for the capture of Salmon or Trout in the fresh-water portion of any river.

4. The condition of the free gaps in fishing weirs has given rise to much difficulty and litigation. It is occasionally found that, either by the act of the owner or from the action of the water, free gaps fail to comply with the provisions of the law, or have ceased to do so. For the better enforcement of the law in these respects, we recommend that they should be inspected triennially, by such persons as the Fishery Authority direct, or whenever at shorter intervals the Fishery Authority think right; and that the Fishery Authority shall have power to order such alterations to be carried out, or acts done, as appear to them to be necessary in order to make the free gap efficient, having regard to the existing currents of the water, the physical conditions of the river, the depth of water, and all other circumstances bearing on the efficiency of the free gap; and that a penalty should be provided against non-compliance with any such order; but the weir-owner should be at liberty to appeal to the County Court Judge against any such order. After each inspection, or when alterations (if any) have been completed, a certificate should be given that the free gap has been constructed in compliance with the directions of the Fishery Authority, and this certificate shall be a protection to the weir-owner while the gap is maintained, or till after the next inspection and certificate given. In any proceedings for a penalty under this recommendation, the order of the central Fishery Authority, unless and so far as successfully appealed against, should be deemed conclusive.

We think that the owner of every fishing mill-dam, and also every mill-dam where such mill-dam has been constructed since the passing of the Act of 1842, should be bound at all times to maintain, and, if so required, to construct, an efficient fish-pass in connection therewith. The provisions of the last recommendation as to inspections and certificates, orders and appeals therefrom, and penalty for non-compliance, should apply to all such fish-passes.

With regard to mill-dams, as to which the obligation to construct a fish-pass does not at present exist, we think that such exemptions should be removed. The provisions applicable to such mill-dams, in the Act of 1842, have not been found workable. We recommend that, in such cases, the fish-passes should be constructed by the Fishery Authority out of funds under their control, and be maintained by the Fishery Authority for the period of three years after their construction; and, after that period, all the same obligations to maintain such fish-passes should attach upon the owner of the mill-dam, as are suggested in the case of other weirs, with the other provisions already mentioned.

A breach of the provisions contained in s. 63 of the 5 & 6 Vict., c. 106, in reference to dams, weirs, or dykes, erected after the passing of the Act, should be punishable on, and a penalty recoverable by, summary conviction.

5. We believe that all attempts to improve the condition of the inland fisheries will prove abortive until there has been established and maintained a system of efficient protection during the weekly and annual close seasons, especially while fish are spawning. At present, from want of funds, many miles of spawning ground are left without any, or with only nominal, protection. The provisions for the weekly and annual close seasons are, in many places, openly and continuously violated, both on the sea-coast and in the fresh-water portions of rivers and other waters. Salmon and Trout, while in a condition, and at a season, when they are absolutely useless (and in fact unwholesome) as an article of food, are killed and taken on the spawning grounds, by numerous devices and instruments familiar to the poacher, and, in some of the most important districts in Ireland, protection would be practically non-existent if the funds were not supplemented by grants made by the net-proprietors in self-defence. It appears to us that this condition of things will continue until there has been provided—

(a) A larger body of bailiffs.

Queen's
Gap.

Mill Dams
and Fishing
Mill-Dams.

Old
Mill-Dams.

Protection
of Spawning
Grounds.

- (b) A better and more independent class of bailiffs, receiving sufficient salaries.
- (c) Also a head bailiff, or head bailiffs, in each district, who, we think, should be directly responsible to the Fishery Authority.

We are aware that the want of funds for these purposes lies at the root of the difficulty, and we shall hereafter allude fully to this important subject; but, in connection with the present heading, we think it right now to refer in detail to a matter much pressed on us, viz., the obtaining of assistance from the Coastguard and Royal Irish Constabulary, the more especially as we do not see our way to adopt to the full extent, as regards the Constabulary, the suggestions urged upon us by many witnesses of high position and great intelligence.

Coastguard. The first of the Fishery Acts specially provides for the Coastguard carrying out the provisions of the law regarding the close season. See 5 & 6 Vict., c. 106, ss. 86, 88, and 90; 8 & 9 Vict., c. 106, s. 10.

We have had evidence, from many witnesses, that the law regarding the close season is systematically violated in the open sea along the coast, in the view of the Coastguard, but they do not interfere, save by sometimes reporting the matter to the Conservators, in most cases a considerable time after the offence has been committed.

The taking of Salmon and Trout in the open sea at lawful times is, in Ireland, a public right. The fish are not the property of any private person, and protection by the Coastguard would be in aid of the public right, and for the public benefit. In some few places, the experiment has been tried of maintaining a steam-launch by Conservators, but the experiment failed owing to want of funds; and in Cork Harbour, for instance, the Conservators' launch was attacked and wrecked by poachers. We are unable to see why the powers, given by the law to the Coastguard, should not be carried out, and we are of opinion that the interests of the public in the fisheries render it most desirable that the restrictions imposed by the authorities at the Admiralty should be removed, and the Coastguard authorized to assist in the enforcement of the close seasons.

Constabulary. The original Constabulary Act of 6 & 7 Wm. IV., c. 13, s. 15, prohibited the employment of the Constabulary in enforcing the Fishery Acts, save where forcible resistance had been made and proved; but this provision was found inexpedient, and accordingly the Act of 1844 (7 & 8 Vict., c. 108), vested large powers in the Constabulary as regards the enforcement of these provisions which were for the protection of the public interest, subject to any restrictions which might be made by the Inspector-General, with the approbation of the Lord Lieutenant.

The Second section of the Act specifies the matters in relation to which the Constabulary may be employed, and which mainly relate to the close seasons.

An Act so recent as 1891 (54 & 55 Vict., c. 20) contemplates their employment for the purpose of enforcing the provisions of the Fishery Acts.

We are strongly of opinion that the public interest makes it desirable that it should be made part of the duty of the Constabulary to assist in the protection of Salmon and Trout, during the spawning season and on the spawning beds. On the spawning ground, the Salmon, with the generative products which it sheds, is not the property of any individual. The riparian owner is only interested, in so far as there is a possibility of some of the progeny resulting from the reproductive process reaching the same locality some years later. The Salmon, with its spawn, is, at this time, public property. It is one of the resources of the country, and should, therefore, have extended to it the protection of the State. It does not appear that, during the very considerable period, during which the employment of the Constabulary was expressly sanctioned by the order of the heads of the Force, any inconvenience was suffered, nor that any real inconvenience is felt now where they render, as they often do, voluntary assistance. There was complete unanimity in the evidence submitted to us on the point under consideration, and we desire to refer, as an illustration, to the evidence of Lord Morris. He says:—

"I want to state, after long experience, not indeed in a fishing way, but I went fifty-three circuits through Ireland as judge, and in my opinion there will never be anything practical in the way of putting down poaching unless the Constabulary are to do it. I look upon everything else as the mere palliative, as if you were pricking a pin in your leg to improve the circulation—utterly useless unless the police are authorised and empowered to put it down. It is illegal under various statutes. Why should not the police put down what is illegal as they do illicit whiskey? Why is illicit whiskey put down except that it is illegal under the statutes? They should be compensated the way they are if they seize a pot still. There is a certain quota of the fine goes to the police for their activity in doing it. There

ought to be a certain quota of the fine and so forth go to them in fishery cases; for otherwise you will never have poaching put down, particularly in the West and South. In the first place, there has been a great change in Ireland, I need not say in the feelings—and of the whole thing. A man won't be sturdy enough now to summon people and make himself unpopular. They don't want to get "the dog's knock" at the next fair or market they go to. You want to get a race of Spartans as fishery keepers. The fishery keepers—I don't attribute it to anything except that they are afraid. I am not in all saying that they are not naturally afraid, and that I would not be just the same myself if I was in their place. It is all very well for a man that is not in the way of being frightened to say he is very valorous; but the question is, what do you expect from those persons? Therefore, I have no belief in anything unless the police are to be employed to put down poaching.

5367. That would be on the spawning beds?—Of course, during the illegal time.

5368. They are not man's property then?—They are no man's property; they are not mine. I could not meddle with the fish myself. And why is it supposed to be the duty of the owner of the fishery to put down an illegality at the time that he has no control over it, no more than any other member of society? Therefore, I think it is entirely a police duty. I cannot understand some suggestions I saw about taking the police out of their proper sphere, and all that sort of thing. What is their proper sphere but to assert the law? This is a breach of the law."

Bailiffs would derive confidence, and be deterred from connivance in illegality, by the fact that officers of the law are associated with them in the discharge of their duties.

We, therefore, while abstaining from recommending the employment of the Constabulary in the protection of private right, or anything in the nature of game preservation, respectfully suggest that they should be ordered to aid in the protection of Salmon and Trout during the spawning season.

In cases where convictions are obtained, we think a quota of the fine should be given to them, just as in cases of prosecution for illicit distillation, in the detection of which they have been long employed.

6. (a.) In some parts of Ireland, much injury is done by the use of dynamite and other explosives, or by poisons, generally spurge (*Euphorbia hirsutica*), for the destruction and capture of fish, which are afterwards sent to market or exported, though their use, as a wholesome article of food, is questionable. The law at present is inadequate to meet such cases, and we recommend that the second section of the Dynamite Act of 1877, should be amended, so as to be made applicable not only to "fish in a public fishery," but also to any river frequented by Salmon or Trout; also that any person having in his possession near any such river, estuary, or lake, any dynamite or explosive substance, &c., with intent to kill or destroy Salmon or Trout, should be liable to the same penalty. We also recommend that the same provisions should be applied to the use of poison, and a minimum penalty should be specified. We also recommend, for the purpose of enforcing these provisions, that the enactments contained in sections 5, 6, 7, 8, 9 of the Pollen Act of 1891 should be made applicable to Salmon and Trout, but amended, so as to include baskets, boxes, and other packages reasonably supposed to contain fish; and the words "illegally caught," in sub-section 2 of the same section 6, should extend to all Salmon and Trout reasonably supposed to have been illegally caught or killed by any poisonous or noxious matter, or any other unlawful means, or to any unseasonable or unclean fish.

6. (b.) It is at present an offence to steep flax in a river or lake, or to discharge flax-water into rivers or lakes, so as to injure fish. It undoubtedly causes much injury to fish, and is an evil that can be obviated by a little care and consideration on the part of the flax-steerer. We think a minimum penalty of 10s. should be provided for a first offence, and of £1 for a second; and the fact of a person being the owner or occupier of a flax-dam should be made sufficient evidence of his causing or permitting the flax-water to discharge, so as to subject him to a penalty. It should be made illegal to construct, hereafter, flax-dams in such a manner, or so near to a river or lake, that flax-water can escape or drain into the latter, or to discharge flax-water into any river or lake, except at times permitted by a fishery bailiff, or other representative of the Fishery Authority.

6. (c.) Pollutions from mills and factories are not, in Ireland, as frequent a cause of (c) Factory injury to Salmon and Trout, as in England. We think the 80th section of the 5 & 6 pollution. Vict., c. 106, should be amended, by providing a minimum penalty of £2; and the fact of any person or persons being the owner or occupier of a mill or factory should be deemed in all cases sufficient evidence of his or their having caused the pollutions or injury, where the person who shall have actually committed the offence shall not be known, or cannot be found.

6. (d.) The question of the protection of Salmon and Trout, and the smolts and fry of (d) Ter- Salmon, from destruction by turbines and mill machinery has been long a controversial topic.

Various
Causes of
Detection
(a) Poison-
ing, &c.

one. We have heard much evidence on the subject, and the Commission has made, and caused to be made, a few experiments, with the view of obtaining some practical information on the effect of turbines on descending fish; but owing to the adverse circumstances under which these experiments were carried out, the results were not conclusive. The necessity for the protection of the young and fry of Salmon, in such a case, has been long recognized in fishery legislation, and we do not consider that it would be prudent to remove any of the obligations already existing on the millers in these respects. We think that the gratings, lattices, and net-work, mentioned in the Fishery Acts, should be, in all cases, constructed in a manner approved of by the Fishery Authority, and that a minimum penalty of £2 should be provided for an offence.

(e) Destruction of immature fish.

6. (e.) Great difficulty has arisen in carrying out the provisions for the protection of the smolts or fry of Salmon and Trout. We suggest, for the better carrying out of such provisions, that, in addition, it should be made illegal to wilfully kill or destroy, or have in possession or custody, any young Salmon or Trout of less size than seven inches in length; but this provision should not apply to certified owners of hatcheries, or other persons acquiring, for a hatchery, a stock of fish for the benefit of a river or lake in which they have a definite interest.

7. Reduction in area of spawning beds.

7. There is no doubt that there has been, in some districts, a considerable reduction in the area of the spawning beds. This is principally due to drainage operations, which not only directly reduce the extent of the spawning beds, but also, by causing a more rapid rise and fall of rivers affected, tend to disturb, and perhaps wash away, part of the deposited spawn. This injury, where it exists, can, we think, best be met by the establishment of hatcheries. Further, it should be made illegal to remove any sand or gravel from any part of the bed of a river, where it can be shown that the spawning of salmon takes place.

8. Trade in Illegally caught fish.

8. A very considerable trade, in fish illegally captured or killed, unseasonable, or unclean, appears to be carried on by means of their consignment for sale—either to home or foreign markets—in many cases packed as fowl or rabbits, or other lawful articles of merchandise. Facilities and temptations for this are furnished by the fact that seven rivers in Ireland are open on the 20th January; and also that after netting has closed, fish can be lawfully taken by anglers. We have been pressed with evidence as to the utility of a uniform close time, and also of prohibiting the sale of all salmon and sea-trout, after the netting has been closed. We recognise the force of these suggestions, but, we think that the illegal practices in question may be almost entirely prevented by making it compulsory, that, in all cases of Salmon or Trout consigned for export, or to any person in the United Kingdom dealing in fish or offering it for sale, or having in possession for sale, between the first day of January and the first day of October, a certificate of origin should accompany each consignment, stating the name and address of the sender. This certificate should be signed in the presence of some responsible or independent person, such as a J.P., a Sergeant, or Acting-Sergeant, of Constabulary, or a Head Bailiff. A duplicate should be retained by the sender, and this duplicate, or the certificate of origin, should be produced when required by any person having the powers of a water-bailiff, whose powers should not be limited to the district to which he belongs, or by any member of the Constabulary.

The powers of opening packages reasonably supposed to contain poached fish, already suggested in the case of fish poisoned or destroyed, should be applied, and the fish should be liable to seizure and forfeiture, and the consignor to prosecution. The fish should also be liable to seizure and forfeiture, when not, in the required cases, accompanied by a certificate of origin, and their sale, by any person who has not received, and does not produce, a certificate of origin, should be made illegal.

A form of a certificate of origin was suggested by the witnesses who appeared from London Fishmongers' Company, and we think it is sufficient for the purpose (see Appendix, Part II, Documents, No. XXXIV.). It should be in the power of the Fishery Authority, at and for any periods between the 1st January and the close of the netting season in each year, to exempt from the obligation of sending certificates of origin any specified persons or companies in the habit of consigning fish, who should furnish to the Fishery Authority the names of their usual consignees in the practice of their trade. In this connection, the English Act of 1893 (55 and 56 Vict., c. 50) should be extended to Ireland.

In cases where refrigerators are used for the storage of frozen fish, a schedule should be kept of the number of fish stored, accompanied by particulars sufficient for identification, and the store and schedule should be, at all times, open to the inspection of the Head Bailiff of the district, or other person deputed by the Fishery Authority from time to time.

9. The establishment and maintenance of hatcheries form a question so important, that a very considerable portion of the evidence submitted to us was naturally devoted to that subject, and we have already adverted to one circumstance calculated to make their establishment beneficial. At the same time, it should be recognised that they cannot, and ought not, to be relied upon as, in themselves, sufficient to restore depleted rivers, or as furnishing any reason for permitting laxity in the protection of fish naturally propagated, or for permitting capture by netting to exceed the natural producing power of a river or estuary. At the present time, net-owners at the mouth of a river have imposed on them a certain amount of restraint by the knowledge that, to maintain the supply, it is necessary to provide for the ascent, for breeding purposes, of a certain proportion of the fish entering the river, and the danger of a certain amount of improvident fishing at the mouth of the rivers following upon the establishment of hatcheries not carefully controlled, must be guarded against. Another matter, which is well known to embryologists, must be taken into account. A very small interference with the natural process of development is often followed by very unexpected results. The history of an artificially hatched salmon is, to a large extent, unknown, but, judging from the evidence afforded by rainbow trout, it would appear that the artificially hatched progeny are no less healthy than the parents, and, further, that their reproductive powers are in no respect curtailed. On the other hand, there is reason to believe that inattention to certain details, while not preventing the hatching out of the ova, renders the fry delicate, and less capable of maintaining the struggle for life.

In America, where fish-culture is carried on by funds provided by the Government, the United States Fish Commission claim for the process a very large measure of success. In the official reports (Bulletin XVII., p. 123, 1897), it is stated that not more than 5 per cent. of the ova deposited by salmon in the natural state attain the smolt stage and reach the sea, whilst, broadly speaking, 95 per cent. of artificially impregnated ova are hatched, and 75 per cent. are raised to the age of yearlings. It is also stated that on the Atlantic seaboard of America, salmon, after having been practically exterminated by poaching and other causes, were re-introduced by the artificial hatching of eggs obtained from Canada. Evidence of a similar nature, although not so striking, is forthcoming from other countries.

There are at present, in Ireland, not including some on a very small scale, fourteen hatcheries for salmon, seven of which include artificial propagation of trout. These are maintained, principally, by net-owners for their own interest, and with a view of meeting any occasional overdrafts by themselves upon the resources of their fisheries. Their establishment, however, furnishes the best evidence of the belief of those who possess practical acquaintance with fishery matters in the efficacy of artificial propagation. It is probable that the belief that the benefit from them would be largely resented by those who fish by the public right, or by net-owners on the tidal part of rivers, has acted as a deterrent to their more general adoption. We may refer, however, to the instance of the excellent hatchery established by Mr. Moore, on the Erne, from which he is able, by experience, to say that very beneficial results have been derived. We do not think that public funds should be applied for the erection of hatcheries, in rivers owned, or mainly controlled, by private net-owners; but we are of opinion that the Fishery Authority should do everything in their power to encourage owners to establish hatcheries, and further, should place their experts at the disposal of such owners, for the purpose of giving advice in regard to the construction, and mode of working, of such hatcheries. Some restrictions, also, should be placed on the importation of foreign fish.

We strongly recommend that a central hatchery should be established in each province of Ireland, which should be erected, fitted up, and maintained, out of funds under the control of the Fishery Authority, and be directly under the supervision of the Department, and that the capture and sale of salmon and fry, in connection with artificial propagation, should be made lawful. There are several reasons which appear to us to justify the application of public funds towards the establishment of hatcheries in Ireland. To three of these we may refer—(1) the salmon which develop from

the smolts of a particular river do not all return to their natal river; probably the majority do, but many enter the other streams in the district, and perhaps also streams at a distance from the river in which they were bred; (2) the fact that the right of public fishing is made use of by so large a number of fishermen in Ireland is an argument in favour of the stocking of our rivers by public money; and (3) one of the chief reasons why the artificial propagation of salmon is called for at present is the reduction of the spawning beds by drainage works, carried out for the public good.

We hope that money will be made available for this, and other objects mentioned in this Report, by funds out of those under the control of the Agricultural Board. Our Chairman, on the 24th of May, 1900, addressed a letter to the Vice-President of the Department of Agriculture referring to the necessity of a grant being made for the improvement of the Inland Fisheries. We refer to that letter, and the reply of the Vice-President (*see Appendix, Part II., Documents, No. XLVII.*) promising to give careful consideration to the application, when funds come to be allocated.

10.
Provision of
Funds.

10. We do not believe that the powers of contribution, created by the 37th Section of the Local Government Act, 1898, are likely to be exercised, though the fisheries pay rates which are devoted to purposes controlled by the County Councils. The funds at present available in a district, for preservation and other fishery purposes, are mainly the licence duties. We do not believe that any additions that could be fairly made to them would constitute a material increment; but we consider there are some instances in which increases may be made. We do not, upon the whole, think it desirable to accede to the suggestion of imposing a duty on rod-fishing for trout, which might, in many cases, press hardly on the poor fisherman; but as regards the rod-licence for salmon fishing, we think that the licence should be taken out, and paid for, in the district in which it is first used, and that whenever the holder of a salmon licence goes to fish outside that district, he should pay to the Conservators of each new district into which he moves, an additional duty of 25 per cent.

We think that the existing possible maxima might be doubled in all the following cases, to be applied to such extent as the Conservators think necessary, with the approbation of the Fishery Authority:—On all nets in the fresh-water portions of rivers; also on all fixed engines and nets in estuaries, and drift nets, other than those used in the open sea; and also on all such crives or hatches as, under all the circumstances, the Fishery Authority should think right; and that the duty for fixed draft nets should be £10.

We think it desirable to express our opinion as to the benefit, which might be conferred on the fisheries, by the association of riparian owners and anglers for the protection of rivers, wherever the conditions of the fishery rights permit of it. Such a combination was tried in the case of the River Lee, in Cork, for ten years, with the result that the value of the fishery was greatly increased; but the riparian owners then considered it more for their benefit to let their riparian rights, which had increased in value, and the association was broken up, with the result that the river again deteriorated.

11.
Necessity
for Scientific
Investigation.

11. It has been shown in evidence that, until quite recently, a very inadequate amount has been spent in Ireland in the furtherance of scientific investigation into matters relating to our fisheries; and further, that such sums as have hitherto been granted by Government have been given at the instigation of the Royal Dublin Society. Moreover, in each case, the Royal Dublin Society has contributed out of its own funds more than half the cost of the investigation. It is unnecessary to enlarge upon the paramount importance of continuous scientific investigation into all matters affecting our fisheries. It is a duty and an obligation, which is recognised by all countries that possess fisheries of any value, and it is manifest that it is only by obtaining reliable information regarding the history and habits of fish that we can frame satisfactory regulations for their protection and perpetuation. The further elucidation of the life-history of the salmon must be one of the principal aims of those who are interested in the development of our Inland Fisheries. It is needless for us to enlarge upon what we know, and what we want to know, on this important matter. An able statement, bearing on this subject, will be found in the evidence given by Mr. Holt.*

The scheme outlined by him is one which appears to be calculated to yield speedy and good results, and the Commissioners desire to represent to Your Excellency the importance of urging upon the attention of the Department of Agriculture and Technical Instruction the advantage which would, in all probability, accrue from the acquisition of a river for experimental purposes.

* Evidence qq. 10682-10939.

12. We have already, in dealing with the subjects referred to in this Report, mentioned some amendments in the law which occur to us desirable. Some others, and also some general suggestions, remain.

The Agriculture and Technical Instruction Act, 1892, provides for a transfer of the powers and duties of the existing Inspectors of Fisheries to the new Department, and a gradual reduction of the number of Inspectors, till only one remains. The delegation to a single Inspector of the many subjects calling for treatment in regard to Inland and Sea Fisheries is, we think, an innovation attended with danger. We consider that it is desirable that a Fishery Board should be constituted, to deal with all fishery matters, similar to and holding an equivalent position under the Department as the Boards which at present exist for Agriculture and Technical Instruction. It is also our belief, in the present critical condition of the Inland Fisheries of Ireland, that it would be highly advisable to detail one Inspector, as in Scotland, to the one duty of attending to the Inland Fisheries. We also think it most desirable that there should be employed, in connection with this part of the business of the Department, a skilled engineer, having knowledge of fishery matters, and competent to advise on the many questions that will arise. This Fishery Authority should, we think, have the power of allocating all moneys, available from the funds of the Department, for fishery matters.

We also recommend that the principal bailiff or bailiffs of each district should be appointed, and removable, by the Fishery Authority, and that their salaries should be paid out of the funds of the Department; and that the ordinary bailiffs of the district should be under the control of the principal bailiff, and act under his directions, and the Fishery Authority should have, in this case also, an independent power of dismissal if the Conservators, after representations made, decline to act. The appointment by the Conservators of a Clerk should be subject to the approval of the Fishery Authority, and he should also be removable by the latter by special order if, after inquiry, the Conservators decline to act. We think that the principal bailiffs, and all other officers appointed by the Fishery Authority, should have the power of water-bailiffs, and that the Fishery Authority should have power to confer on their Officers, when desirable, full powers for the enforcement of all or any of the provisions of the Fishery Acts. We consider, that at the beginning of each year, the Conservators should be bound to submit to the Fishery Authority a statement of their funds available for fishery purposes, and the proposed allocation of these; and all public funds, at the disposal of the Fishery Authority, should be disposed of entirely at their discretion. All expenses incurred by the principal bailiffs and Engineer should be part of the expenses of the Department, and the Fishery Authority should have power, when they consider it necessary, to institute and conduct prosecutions for offences against the Fishery Acts in any part of Ireland, at the expense of the Department.

We consider that, in dealing with a National Fishery, a first and most important consideration is the collection and examination of statistics of capture. For this purpose, it is indispensable that accurate statistics should be furnished of all salmon caught in each and every district, and also the number captured by each different method employed.

To be really valuable, these statistics should furnish more than merely the total capture under each licence for the season. The weekly capture should also be carefully recorded.

The Commission has been quite unable to obtain such information with any degree of accuracy; yet statistics of this kind are absolutely essential as a basis upon which rules may be framed for the proper regulation of our fisheries. It is true we are in possession of a number of tabulated statements, founded upon average capture from year to year in particular parts of different districts; in some cases we have actual returns of the amount of capture; but these, by themselves, are of comparatively little value, as they give no indication of the catch in the other parts of these districts. The Government, for the interest of the public in the Inland Fisheries, and for the purpose of aiding in protection, provides a Fishery Authority, and we think it is plainly necessary that, to carry out these objects, it should be furnished with confidential and accurate statistics of the capture of salmon throughout the country.

Some provision should therefore be made by which, in the future, a statement of the actual number of salmon captured by every person fishing under licence, (whether by rod, net, or any other engine), be furnished to the Central Authority. This should be made a condition of the granting of any licence.

12. Amendments in the Fishery Laws.

Information on salmon capture is not required for inquisitorial purposes, or for the purpose of making an assessment, but for devising means by which the property of those furnishing the statistics may be improved.

It is essential that the statistics supplied should be regarded as absolutely confidential. Mr. Hornsby suggests a plan by which this might be conducted, (Appendix, Part L, page 5, chap. 5), and we think that if the Clerks of Boards of Conservators and the principal Bailiffs were brought, either to some extent or entirely, under the control of the Central Authority, much of the supposed difficulty would disappear. The chief obstacle to the carrying out of this scheme would probably be encountered in the case of those fishing under the public right; but if a condition to furnish such returns be expressed on the face of the licence, with a penalty involving the withdrawal of it, in case of wilful omission to comply, we think it is likely that, after a few protests, the dislike to this requirement would disappear, and the figures supplied would be reliable.

It should be noted that in certain foreign countries, an accurate return of all salmon captured is insisted upon, and several of the principal net-owners have, without objection, furnished to us the returns of their captures for a series of years.

General suggestion.

We further suggest:—

That all rod fishing for Salmon and Trout should cease on the last day of September in each year. We believe that ripe fish are frequently killed after that date at present, and after they have ceased to be useful as an article of food.

That the tribunal hearing an appeal from a bye-law should have power to make amendments in it, and pass it in its amended form, where, under the circumstances, the tribunal thinks it just to take that course; or to remit it, as amended, to the Fishery Authority for re-submission to the appellate tribunal. The practice, at present, is that a bye-law must be entirely rejected, if it is not approved of in its entirety.

That a bye-law may be validly made, though it is connected with, or in aid of, an existing prohibition or enactment. It is now considered that such a bye-law cannot be validly made.

That the provision, contained in Section 33 of the Act of 1842, by which persons signing an application for an inquiry are directed to hear the expenses of the application and consequent proceedings, should be repealed.

That a penalty should be provided for taking fish, otherwise than by a lawfully licensed engine.

That when salmon or trout are found in the possession of any person during the close season in any district, the onus of proving that such fish were legally taken should, in the event of a prosecution, be on the person in whose possession the fish were found.

We think that the words "unseasonable salmon," in section 74 of the Act 1842, should be defined to include salmon called by the name of keeves, kippers, slats, kelts, or mended kelts, and all salmon about to spawn, or returning to the sea after spawning.

It has been suggested by several witnesses that it might be advantageous to place a barrier across the mouths of certain small tributaries which flow through isolated districts, and which, as a rule, have a limited flow of water. It is thought that, by this means, the salmon, while spawning, might be confined within a more easily watched area, and that protection would be rendered more effective. We do not consider that this is a proposal which should be carried into effect. The spawning area in Ireland, already reduced by drainage works, should not be artificially diminished, and the congregating of spawning fish at the mouth would probably more than counterbalance any benefit resulting.

We recommend that cormorants and mergansers should be excluded from the operation of the Wild Birds' Protection Act.

We also consider that the open season for eel fishing, in the River Bann, should be made uniform with that in other rivers.

Conclusion.

Notwithstanding the general terms of the warrant appointing us, we have limited our inquiries to the subject of Salmon, Sea, and Brown Trout Fisheries, and matters strictly germane thereto.

We desire to place on record our high appreciation of the ability and energy uniformly displayed by our Secretary in the discharge of his onerous duties, and the advantages we have derived from his intimate knowledge of the subjects involved in our inquiries.

Three Appendices are annexed to this Report:—

Part 1 contains the evidence given.

Part 2 contains important documents put in evidence during the inquiry, and procured by ourselves, and also furnished by others taking an interest in fishery matters, notably Mr. R. L. Moore. We desire to acknowledge the receipt of many valuable communications also made to us by others, including Dr. Marmaduke Shiel, Miss Thomasina Little, Mr. Moreton Frewen, Dr. Crawford, Mr. J. A. Place, and a number of other persons too numerous to mention.

Part 3 is a translation of the Report of the Royal Commission on Norwegian Salmon Fisheries, 1896-1898.

All which we humbly submit for the consideration of Your Excellency,

SAMUEL WALKER.

O'CONOR DON.

D. J. CUNNINGHAM.

THOS. H. GRATTAN ESMONDE.

R. U. PENROSE FITZGERALD.

W. C. M'INTOSH.

WM. SPOTSWOOD GREEN.

G. W. HELY-HUTCHINSON,

Secretary.

January 14th, 1901.

I sign the above Report, because I concur with my colleagues in the general conclusions arrived at, but, with reservation as to all matters referring to the constitution of the Department of Agriculture and Technical Instruction, of which I am an Official.

WM. SPOTSWOOD GREEN.

CHIEF SECRETARY'S OFFICE,

DUBLIN CASTLE,

14th January, 1901.

Sir,

I am directed by the Lord Lieutenant to acknowledge the receipt of your letter of to-day's date, forwarding the Report of the Irish Inland Fisheries Commission.

I am,

Sir,

Your obedient servant,

J. B. DOUGHERTY.

The Secretary,

Irish Inland Fisheries Commission,
Bedford Tower,
Dublin Castle.